

REMARKS

Claims 23, 25-43, 45-48, 50, 52-55 are pending in this application. Claims 24, 44, 49, 51, 56 are canceled, without prejudice or disclaimer.

At page 2 of the office action, the specification has been objected to regarding the recitation of WO 01/03690 on page 18 as being incorporated by reference. No essential material has been incorporated by reference. To advance prosecution, the objected-to recitation has been removed.

Also at page 2 of the office action, the specification has been objected to at page 20 for non-italic font. As requested by the Examiner, the specification has been amended to use italics.

At page 3 of the office action, Claims 24, 30-36 and 41-56 have been rejected under 35 U.S.C. 112, second paragraph, as indefinite.

Regarding Claims 30-36, 41-42, 49, and 56, the Examiner takes issue with recitation of the term “sufficient.” Without necessarily agreeing with the Examiner, to advance prosecution, the claims have been amended to recite the invention without using the objected-to term.

Regarding claims 23 and 37, the Examiner objects that it is unclear whether the value of 15% is a weight or volume percent. Applicants have responded by amending those claims to expressly recite weight percentage, as already was recited in, e.g., claim 43.

Regarding claims 24, 44 and 51, the Examiner takes issue with the recitation of “pure form.” Without necessarily agreeing with the Examiner, to advance prosecution, those claims have been canceled.

At page 4 of the office action, Claims 23, 24, 26-28, 30-35, 37-44, 46-48, 50, 51, and 53-55 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Mechoulam or Volicer, in view of McNally.¹

¹At page 7 of the office action, dependent Claim 36 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Mechoulam, Volicer and McNally, further in view of the 1997 “Appetite Stimulation” reference. At page 8 of the office action, dependent Claims 25, 45, and 52 have been rejected over Mechoulam, Volicer and McNally, further in view of Pars. At page 9 of the office action, dependent Claims 29, 49 and 56 have been rejected over Mechoulam, Volier and McNally, further in view of Ohlsson.

At page 10 of the office action, Claims 43-48 and 50-55 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Pars in view of McNally.²

Applicants respectfully traverse the obviousness rejections. The Examiner has given too little significance to what he admits is lacking from each primary reference, namely, that none teaches an aerosol formulation comprising HFAs. Before Applicants' present work, no one had successfully formulated HFA aerosols for delivering THC. Thus, it would be quite beyond a person of ordinary skill in the art to modify Mechoulam or Volicer or Pars to aerosolize THC for pharmaceutical delivery.

Volicer teaches the use of Dronabinol (synthetic THC) for the treatment of Alzheimers when administered in combination with a "pharmaceutical carrier" for [essentially] oral treatment. Volicer lacks any data or other information to substantiate that dronabinol could be formulated and administered *via inhalation* in a pharmaceutically acceptable way. Inhalation formulation and delivery requires special expertise and knowledge. Volicer lacks teaching which a person of ordinary skill in the art could have used to arrive at the presently claimed invention.

Mechoulam teaches the use of THC derivatives and a range of possible pharmaceutical compositions for them, specifically pharmaceutically acceptable carrier, aqueous cosolvent solution, emulsions, and unit dosage forms. As was the case in Volicer, Mechoulam lacks any data or other information to substantiate that his THC derivatives could be formulated and administered via inhalation in a pharmaceutically acceptable way.

Pars teaches the use of ester derivatives of tetrahydrocannabinol and lacks any data or other information to substantiate that these derivatives could be formulated and administered via inhalation in a pharmaceutically acceptable way. Inhalation formulation and delivery requires special expertise and knowledge. Pars lacks teaching from which a person of ordinary skill in the art could have arrived at the presently claimed invention.

McNally teaches that Butixcort, HFA, Ethanol plus flavoring is stable in MDI containment. Drugs like Butixcort have much lower solubility in these propellants than THC – a fact which permits their formulation because the required doses of such drugs is also much

²At page 12 of the office action, dependent Claims 49 and 56 have been rejected over Pars, McNally and Ohlsson.

smaller than THC. McNally would not allow a formulator of ordinary skill in the art to conclude that THC was sufficiently soluble and stable in a similar MDI formulation to enable the achievement of the necessary metered and respirable doses. The presently claimed invention can only be arrived at by doing the experiments that Applicants did and being surprised by the discoveries that Applicants made.

Neither McNally nor any other reference cited by the Examiner can provide such a person of ordinary skill in the art the requisite information for how to aerosolize THC for pharmaceutical delivery, because that was a serious and complex problem that had resisted solution since the 1970s when efforts (not successful) had begun to be focused on developing a CFC propellant MDI to deliver THC to the lungs for treating asthma. McNally is specifically addressed in the Declaration submitted herewith of Jeffry Weers, Ph.D., at paragraph 4.

As set forth in Dr. Weers' Declaration submitted herewith, the solubility of THC in HFA propellants is high and unexpected to a person of ordinary skill in the art, and Applicants' surprising new discovery has lead to the presently claimed invention, for which there was a long-felt need. Dr. Weers' Declaration explains in detail how a person of ordinary skill in Applicants' art would think and what he or she would know. A person of ordinary skill in Applicants' art would not combine Mechoulam, Volicer and McNally to arrive at Applicants' presently claimed invention. The Declaration of Jeffry Weers, Ph.D. submitted herewith is detailed evidence of non-obviousness and rebuts the assumptions underlying the obviousness rejection. Wherefore, reconsideration and withdrawal of all the obviousness rejections are respectfully requested.³

At page 14 of the office action, Claims 24, 26-29, 43, 46, 48, 49, 50, and 52-56 have been rejected for nonstatutory obviousness-type double patenting based on claims 1-12 of U.S. Patent No. 6,509,005. At page 15, Claims 23-27 and 29-36 have been rejected for nonstatutory obviousness-type double patenting based on claims 1, 2 and 4-16 of U.S. Patent No. 6,713,048.

This issue will be addressed in due course by filing a Terminal Disclaimer.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 23, 25-43, 45-48, 50, 52-55 be allowed, and that the application be passed to issue.

³For simplicity and brevity, further comments about dependent claims are not provided at this time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephone or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Mary E. Goulet
Reg. No. 35,884

WHITHAM CURTIS
CHRISTOFFERSON & COOK, P.C.
11491 Sunset Hills Rd., Suite 340
Reston, VA 20190
Tel. 703-787-9400